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AN APPLICATION OF THE LABORATORY METHOD TO THE TEACHING OF GREEK AND LATIN

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One of the laudable aims of every good teacher is to interest his class in the subject which he is teaching. This aim is not only a desirable one, but its attainment is indispensable to success in teaching. To quote from a prominent educator:¹

Where there is no interest there is no positive attention. Where there is no positive attention, there is seldom clear knowledge in consciousness. Where there is no clear knowledge in consciousness, there is confusion and darkness, the vague borderland of superstition and of doubt, and of all the other ills which may break into the human soul, and take possession of what ought to be a steadfast and clear-minded spirit, if properly taught.

The question, therefore, as to how to secure the interest of the student in the subject taught is a very vital one for every teacher. How is it to be accomplished? Many false notions are current as to how this is to be done. Permit me to state in the first place a principle which ought to be axiomatic to all. Interest in a subject can never be developed by occupying one's self with something else. Students cannot acquire interest in Latin by attending parties. And it is a commendable thing for a teacher to entertain his students. A teacher can do very little toward interesting a class in the Latin language by giving stereopticon talks on Roman life. And by no means do I question the desirability of giving such talks. A pupil may spend ever so profitable and interesting an hour in listening to some highly entertaining and instructive talk about the Romans and their times, but if, when he sits down by himself to prepare his next day's assignment in the text of Caesar or Cicero, he "cannot make head nor tail out of it all," he is not likely to be very enthusiastic about the study of the Latin language. Interest in the Latin language can only be aroused by teaching the Latin

¹ Martin G. Brumbaugh, *The Making of a Teacher*, pp. 28, 29.

language. There is no other way. Practically every teacher of Latin or Greek will recognize the fact, if he stops to think of it, that what caused him to like the subject well enough to teach it was not because he was interested especially by entertainments or talks on Roman or Greek life, but because the very process itself of reading the Latin or Greek had a sort of fascination for him. A student will become interested in any subject when, by reason of his successful experience with that subject, he acquires a sense of mastery or proprietorship over it. For most pupils the attainment of this degree of mastery requires skilful teaching. It cannot be imparted by assigning tasks which the student cannot do with proficiency. It is best attained by such exercises as are most perfectly adapted to the mental capacity of the student. It has long been a firm belief of mine that any student can learn Greek or Latin well if the instruction is properly adapted to his mental ability.

Our present system of teaching elementary Greek and Latin in classes is pedagogically unsound, because it is adapted to the average student, and the average student in our classes is in the minority. Under this system the better students are not encouraged to work up to their capacity, and they acquire habits of idleness. But still worse, the poorer students are compelled to proceed at a pace which they cannot or will not maintain. Many—alas far too many—fall by the wayside, and even the few of these who take the course over again are subjected to the unpedagogical treatment which is accorded to “repeaters.” The majority of the poorer students in a class do their work 60 per cent or 70 per cent right and “get by,” and 60 per cent or 70 per cent comes to be the norm for the work of such students. How sadly inadequate such knowledge is, is evidenced again and again by our examination papers. All this is the result of our unsound attempt to fashion all students in the same mold. It is particularly disastrous in subjects like beginning Greek and Latin, where every lesson presupposes a correct understanding of all the preceding lessons.

At Denison University we believe we have gone a long way toward solving this problem, by applying the principles of the laboratory method of instruction to the teaching of our elementary

Greek and Latin. This method was first put into operation in the Greek last year, and to it we attribute a gratifying increase in the enrolment of students in the Greek courses. Year before last we had in all 33 students in Greek courses, of whom 12 were in the beginning Greek class. Last year we had all told 47 students, including 21 in the beginning class. This year we have a total of 81 with 38 beginners. Our experiment has been watched with interest by other departments in our university, and at the beginning of this year the Freshman mathematics was placed on the laboratory plan, and since last Christmas the Latin in the academy has been taught by this method.

The laboratory method as applied to the teaching of elementary classes in Greek and Latin is an attempt to suit the instruction to the needs of the individual student. As in the case of the sciences and other subjects which have been taught by this method, the pupil spends two hours a week in the laboratory for each hour of credit sought. He works under supervision and carries away only minor tasks to complete. For the direction of the student's work a series of assignment cards has been prepared. On the first day he receives card No. 1 from the desk. This card assigns him a definite task and gives him such instructions as he may need. He goes to his seat and undertakes to do the work assigned according to the directions given. If he needs help, it is immediately available in the right form. When he thinks he has mastered this assignment, he reports to the instructor in charge or to one of the assistants, and is immediately tested in writing or orally or both. A practically correct standard of attainment is required; not 60 per cent or 70 per cent or 80 per cent or even 90 per cent. If the student convinces the instructor that he has mastered the assignment he is given No. 2. If not, he returns to his seat to do more work on No. 1. This means that after a short while no two students in the laboratory are working on the same assignment at the same time. It means that during a semester the best students in the course will accomplish approximately three times as much work as the poorest. For this reason a varying credit is given for the course, according to the amount of work accomplished. At the end of the first semester at Denison University this year the five best students in

this course each received five credits, the four poorest students each received two credits only. There were no failures.

The assignment cards at Denison are of several kinds, considered from a pedagogical standpoint, and are handled by the instructors usually in one of three ways. Some call for the acquisition of new knowledge, the learning of paradigms, vocabularies, principles of syntax, etc. These are tested briefly, as each student reports, both in writing and orally. Others call for the application of vocabulary, forms, and syntax to the reading and translation into English of Greek or Latin sentences, and are tested orally. Other assignments call for the written translation of sentences or connected matter from English into Greek or Latin, and are presented usually in series of four. If the first is written with a high standard of attainment, the student is excused from the rest of the series; otherwise he must do the next number. Similarly, if the second or third of the series is written with the required standard of excellence, the student passes over the rest of the series. In this way the best students are not required to write more than is sufficient to show their mastery of the subject, while the poorer students automatically provide themselves with increased drill, and that in proportion to their needs. Another class of assignment cards calls for the review of matters which have been previously learned. Some of these are tested orally and others are followed by written tests, which are again in series of four and handled as described above. In these review tests, however, nothing but an entirely correct paper excuses the student from writing the rest of the series. It will be noted that in our system every exercise written by the student is marked immediately and in the presence of the student, thus affording the ideal opportunity for discussion and suggestions, and assuring the careful attention of the student to all corrections.

There are, of course, several good points in the class-recitation system, and we do not throw away these advantages. We provide a series of group recitations, which affords the opportunity for general explanations and talks by the teacher and also affords the opportunity for students to hear their fellow-students recite and to have the practice of giving expression before their fellow-students

to the knowledge they have gained. Here is our opportunity for such oral drill as can best be given in classes and for the play of the teacher's personality upon his subject in a way altogether different from that shown in the laboratory. These recitations are usually from fifteen to thirty minutes in length. Each student participates in such group recitations to the extent of one or two hours a week. This series of recitations is repeated two or three times at intervals of a week or more. All members of the laboratory who are ready for a given group exercise, when it is first given, are admitted into that recitation. The others wait for the first or second repetition of the exercise. If a student happens to be absent at the time his group recites on a given part of the work he is called with the next group, etc.

In this system, as will be noted, we lack the driving power of a lesson specifically assigned for a certain time. This is compensated for by the publishing on the blackboard or otherwise, from day to day, of the entire list of students in the laboratory, in the order of their progress and showing the assignment number which each student had reached at the close of the previous day's work. Thus the spirit of rivalry is brought in and proves to be a strong impelling motive. Besides, we advertise in advance the group recitations which are to be called during the days immediately ahead, and there is the desire on the part of the student to be ready to participate in as many of these recitations as possible. Furthermore, as in the usual class system, there is always the possibility, but with a much increased opportunity for it, of individual conferences with students regarding their progress.

It is the plan to keep students in the laboratory from one and a half to two and a half years, or until they have acquired some facility in handling the Greek or Latin, including, in the case of Greek, the reading of Xenophon's *Anabasis* and possibly Homer's *Iliad*, and in Latin, the reading of Caesar's *Bellum Gallicum*. When the student has reached the required degree of proficiency he is then admitted to the advanced courses, which are conducted on the class-recitation system.

The plan outlined above calls for some increased instruction and some special equipment. Experience shows that fifteen

students in the laboratory will keep one instructor busy. This fact, together with the doubling of the number of hours that the students are under instruction, greatly increases the number of teaching hours needed. This is offset by the fact that there is little or no preparation and no papers to grade outside of class. Six hours of this work makes no more demand on the teacher than four of the ordinary class exercises. Then, too, it has been found feasible to follow a plan similar to that which has long been used in most chemistry and physics laboratories, to use the advanced students in the department as assistants to help out in periods where more than fifteen students are in the laboratory. At Denison we provide at least one such student assistant for every ten pupils over the fifteen mentioned above. Even though some of the work done by these assistants is inferior to that done by the regular instructors, we do not feel that the student suffers, for he receives more attention than under the class system from the regular members of the teaching staff, plus a great deal of attention from these student assistants, which is certainly far better than the type of help the ordinary student usually receives from his fellow-students. There is a distinct advantage in the fact that each student has not one teacher but several. In the ordinary class, if the instructor fails to meet a special need of some student with just the right explanation, the student dislikes to bring the matter up again, and often goes unsatisfied. In the laboratory system, if he fails to secure the needed explanation from one instructor he will take his difficulty to another. He has the advantage of the several viewpoints of different minds and their different efforts to meet his need. The increased cost to the institution of the laboratory method of instruction is not excessive, and, even though it were much greater than it is, such increased expense has been cheerfully provided for years for the sciences in their laboratories, and it has the same justification for the classics.

When we first conceived the idea of using this plan of teaching at Denison University we had a beginning Greek class of twelve students and an *Anabasis* class of four, each reciting four times a week. It occurred to us that if we could so adjust schedules as to have these sixteen students come into the Greek laboratory for

the same eight periods, the new plan could be operated without any increase of teaching schedule. Of course, this adjustment of schedules did not prove to be entirely feasible, and some increase of teaching schedule was necessary. In the middle of that year it occurred to us that an opportunity could be given to any student who might wish to do so to begin Greek, and nine new students came into the laboratory. This incident illustrates another marked advantage of this system, in that it permits a student to begin the course at any time. With the constant increase in the number of students in the laboratory, increased teaching hours and assistance have, of course, been required.

In the matter of equipment it is desirable to have tables or desks of some kind for the students to work at and a place where each student may leave books and materials, although not even this is a *sine qua non* for the use of the laboratory method. Given the proper funds at our disposal we can easily imagine a classical workshop so equipped that it breathes the atmosphere of classical art and refinement just as constantly as our average chemical laboratory emits its gases.

In conclusion permit me to enumerate briefly some of the specific advantages of the employment of this system:

1. There is no guessing on the part of the instructor as to how much or how little to assign for each lesson. The assignments are natural units of the subject and may vary greatly in length.
2. There is no bearing down on the length of the assignments by the students. They are interested in covering as much ground as possible rather than in keeping the assignments short.
3. There are no failures. The poorest students can do well and thoroughly at least half the work. It is far better pedagogically for a poor student to do half a semester's work successfully in each of two semesters than for him to fail in a whole semester's work and then repeat it and pass, to say nothing of those cases which fail the second time.
4. There are no repeaters because there are no failures. The repeater in our ordinary classes regards his work as a "soft snap" during the early part of the term because he has had it before, acquires lazy habits with reference to the work of the course, and

usually fails to give any diligent application to the work, until he is far past the point where he needs to do so, with the result that he is often beyond his depth again before he knows it and floundering about as badly as when he first tried the subject.

5. There are no withdrawals because of inability to keep up with the class. Students who progress very slowly the first semester often move more rapidly later.

6. No impossible task is ever put before a student. It is never pedagogically correct to set any student a task for which he has not the proper previous training. The principle of the prerequisite which has long been used in registering students for our courses is here applied to the individual assignment. In this way the fundamental conditions for the development of interest as outlined in the opening paragraph of this paper are met for each individual student.

7. No laboratory or class exercises are missed. A student who has to be absent from the laboratory comes in at other hours to make up the lost time. A student who is absent when his group recitation is called, is called again when the next group is ready.

8. There are practically no improper methods in the preparations of lessons, at least while the student is in the laboratory. The use of the "literal translation" or "pony," which is one of the most potent causes of so many students dropping the study of Latin or Greek, is eliminated.

9. There is no swamping the student who has been absent because of sickness or death in the family or other such reason, for he takes up his work when he returns just where he left it.

10. There is no appreciable encroaching upon the work of the course by the outside interests of the student. The members of the athletic team, the intercollegiate debaters, the members of the dramatic club, the students who are over-active in social affairs, may neglect their other studies, but while they are in the classical laboratory they have nothing else to think about.

11. There is no wasting of the time of the class while the teacher helps the poorer students over difficulties which were supposed to have been mastered before class time. All individual and peculiar difficulties are best settled by individual work in the laboratory.

12. There are no students in class with unprepared lessons. They must pass the laboratory tests before they are admitted to the recitations. Every such exercise is therefore a more finished performance, and the teacher has the time to supplement the class work with those interesting explanations and side lights which make the subject live to the class.

13. There are no classes where some students are so much better than others that they are bored by the slow rate of progress, while the others feel that much of the work is slipping away from them. The principle of homogeneous grouping is at all times nicely applied.

14. There need be no omitting of Greek from our high-school curricula, for under this system a single student who wishes to study Greek can be well taken care of in the same classical laboratory with the Latin students. Such a student will be placed at the head of the laboratory list and will stand out as a bright and shining example for others to emulate.

Having stated my fourteen points, it only remains to say that because of the interest which is already being shown in this method it is hoped that in the comparatively near future at least a preliminary edition of laboratory material suitable for this purpose can be put into print. Suggestions and criticisms from those most interested in the pedagogy of classical instruction will be most welcome.